PATENT SPECIFICATION

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Complete Accepted: Jan. 19, 1928.

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PROVISIONAL SPECIFICATION.

Improvements in and relating to the Manufacture of Sheet Metal Drums, Canisters or similar Receptacles.

We, READS LIMITED, a British company, and HUGH WAGSTAFF, British, both of 21, Bridgewater Street, Liverpool, do hereby declare the nature of this invention to be as follows:—

This invention relates to an improved means for affixing the necks into sheet metal drums, canisters or similar receptacles used for carrying oil or other liquid such necks taking the form of a somewhat cylindrical sheet metal fitting secured to an aperture in one end of the drum or canister and adapted to receive a stopper whether of the bung type or a screwed stopper.

According to this invention an aperture is formed in one end of the drum or canister and flanged at right angles to the plane of the drum, the neck consisting of a cylindrical or slightly tapered sheet metal element also provided with an inwardly directed annular flange radial to the wall of the neck, the inner diameter of the flange being of such a size that it may fit over the flange in the drum head. By the operation of press tools the upstanding flange on the drum head is then pressed outwardly and consolidated down upon the flange of the neck thus clenching the neck to the drum head. This clenched seam is then, by means of a succeeding operation, deflected somewhat inwardly to the neck, a final operation closing the clench against the cylindrical wall of the neck to form a close double seam. Preferably this double seam is recessed into an annular cavity formed at the base of the neck so that the inner surface of the neck is flush after the double seam has been formed.

Such a neck piece is suitable for closing by means of a friction stopper or bung and in order to prevent the neck-piece turning round during the insertion or removal of the stopper a "dimple" or "dimples" is or are formed in the flange of the neck piece before assembling, the subsequent consolidation of the seam gripping the "dimples" and effectually preventing rotation.

When it is desired to substitute a threaded neck piece suitable for receiving a screwed stopper, a returned flange is formed on the lower part of the threaded neck piece, a flange similar to that previously described but reversed being formed in the drum head. The neck piece is inserted from the inner side of the drum head, its returned flange engaging round the flange on the drum head, the three folds of metal at the connection being then outwardly expanded by the operation of press tools and consolidated against the drum head.

In either arrangement the double seam thus produced forms an effective fluid tight joint, very suitable for affixing neck pieces to sheet iron drums.

Dated this 1st day of November, 1926.

A. J. DAVIES,
Patent Agent,
24, Moorfields, Liverpool.

COMPLETE SPECIFICATION.

Improvements in and relating to the Manufacture of Sheet Metal Drums, Canisters or similar Receptacles.

We, READS LIMITED, a British company, and HUGH WAGSTAFF, a British subject, both of 21, Bridgewater Street, Liverpool, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

[Price 1/-]

This invention relates to an improved means for affixing the necks into sheet metal drums, canisters or similar receptacles used for carrying oil or other liquid such necks taking the form of a somewhat cylindrical sheet metal fitting secured to an aperture in one end of the drum or canister by a process of flang-

ing and seaming and adapted to receive a stopper whether of the bung type or a screwed stopper.

According to this invention an aperture is formed in one end of the drum or canister and flanged at right angles to the plane of the end of the drum, the neck consisting of a cylindrical or slightly tapered sheet metal element also provided with an inwardly directed annular flange radial to the wall of the neck, the inner diameter of the flange being of such a size that it may fit over the flange in the drum head. By the operation of press tools the upstanding flange on the drum head is then pressed outwardly and consolidated down upon the flange of the neck thus clenching the neck to the drum head. This clenched seam is then, by means of a succeeding operation, deflected somewhat inwardly to the neck, a final operation closing the clench against the cylindrical wall of the neck to form a close double seam. Preferably this double seam is recessed into an annular cavity formed at the base of the neck so that the inner surface of the neck is flush after the double seam has been formed.

In the accompanying drawings Fig. 1 is a section of a neck piece and Fig. 2 is a section of the end or head of a drum. Fig. 3 shows the primary adjustment of the neck piece to the drum ready for the first operation. Fig. 4 the first operation of clenching the neck to the head while Figs. 5 and 6 are analogous views showing the further successive operations.

In carrying out the invention, Figs. 1 to 6, an aperture 1, Fig. 2, is formed in the head or end 2 of the drum to which the neck piece 3, Fig. 1, is to be connected. The aperture 1 is flanged at 1*a* at right angles to the plane of the drum head such flange standing up on the exterior face of the head. The neck 3 which consists of a cylindrical or slightly conical sheet metal element is formed with an inwardly directed annular flange 3*a* radial to the wall of the neck. The inner diameter of this flange is made of just such a size that it may fit over the flange 1*a* in the drum head as shown in Fig. 3. By means of press tools the upstanding flange 1*a* is first consolidated upon the neck flange 3*a* producing the clenched seam shown in Fig. 4. This clenched seam in the next operation Fig. 5 is deflected inwardly to the neck by means of suitable tools and in the final operation shown in Fig. 6 the seam is closed against the cylindrical wall of the neck to form a close double seam which may be left as shown in Fig. 6 but is preferably recessed into an annular cavity round the base of the neck leaving the bore of the neck flush.

Such a neck piece is suitable for enclosing by means of a friction stopper or bung and in order to prevent the neck piece turning round during the insertion or removal of the stopper a " dimple " or " dimples " is or are formed in the flange 3*a* of the neck piece before assembling, the subsequent consolidation of the seam gripping the " dimples " and effectually preventing rotation.

By making the neck piece cylindrical with a screw thread pressed therein it may be adapted to receive a screw-threaded closure cap, the same method of attaching to the drum head being employed.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. The process of securing a sheet metal neck piece to the sheet metal head of a drum or the like which consists in forming a flanged aperture in the drum head, the neck piece provided with an inwardly directed radial flange being positioned round the flanged aperture and the drum head flange then pressed outwardly and consolidated on the flange of the neck piece, the clenched seam thus produced being closed against the wall of the neck to form a double seam.

2. In means for securing neck pieces to the heads of sheet metal drums, as claimed in Claim 1, forming one or more dimples in the flange or flanges before assembling for the purpose of preventing turning of the neck piece after the seam has been consolidated.

3. The improved means for securing neck pieces to sheet metal drums substantially as described and shown in the Figs. 1 to 6 of the accompanying drawings.

Dated this 29th day of July, 1927.

A. J. DAVIES,
Patent Agent,
24, Moorfields, Liverpool.

283.673 COMPLETE SPECIFICATION 1 SHEET

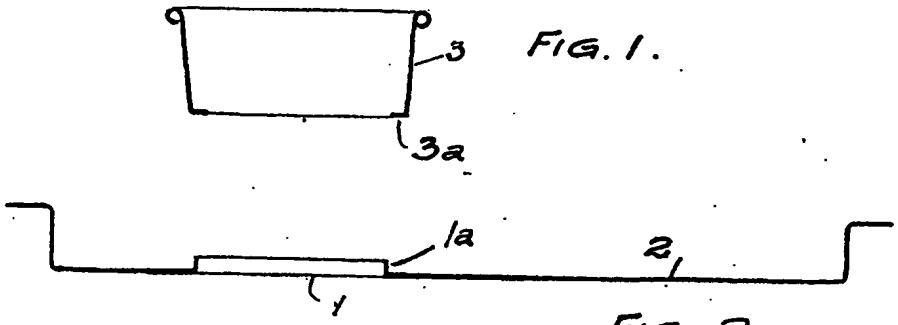

FIG. 1.

FIG. 2.

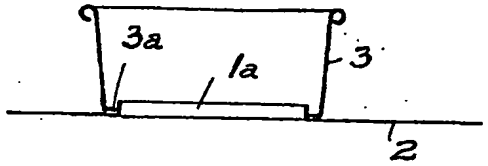

FIG. 3.

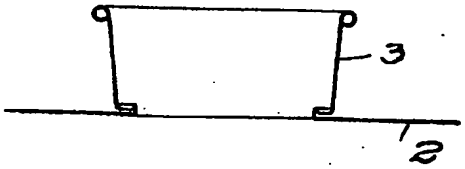

FIG. 4.

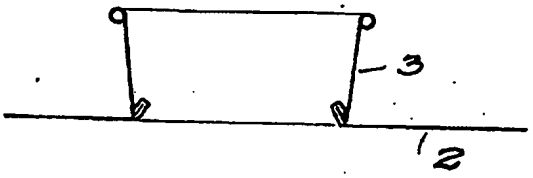

FIG. 5.

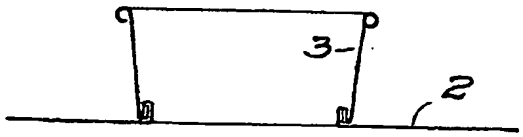

FIG. 6.

Charles & Read Ltd. Photo Litho.